



GNSS Application & Practice in Fishery and Timing in China

BeiDou Navigation Science & Technology Co., LTD.

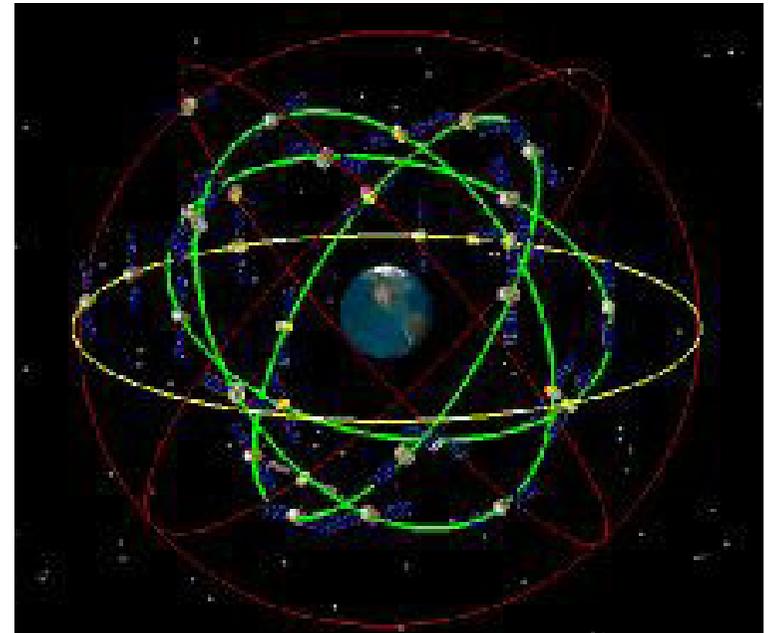
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4 GNSS



BeiDou(COMPASS)

- ▶ RNSS
- ▶ RDSS two-way ranging capability
- Short Message Service
- Timing
- 9 satellites

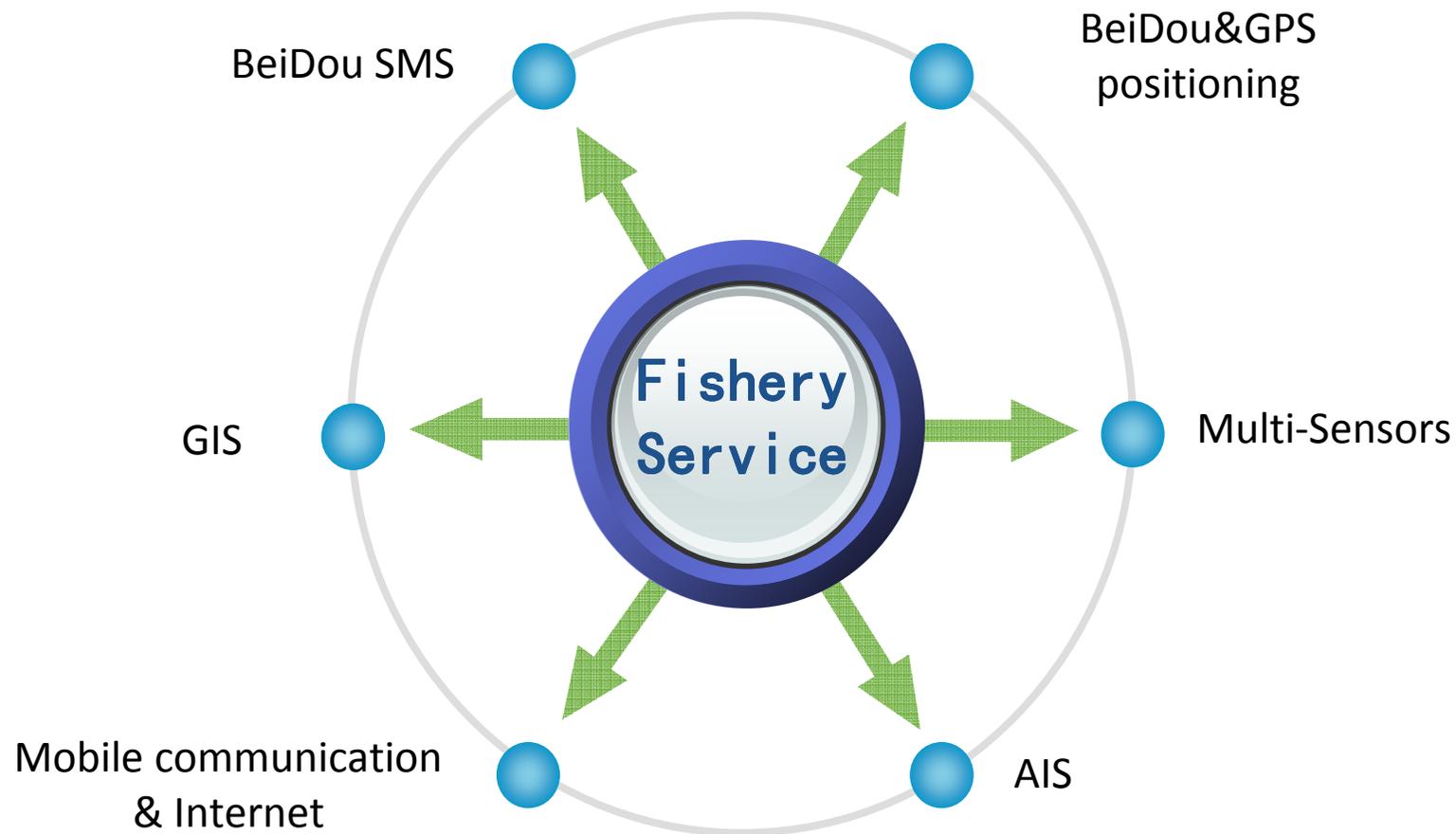


Fishery application

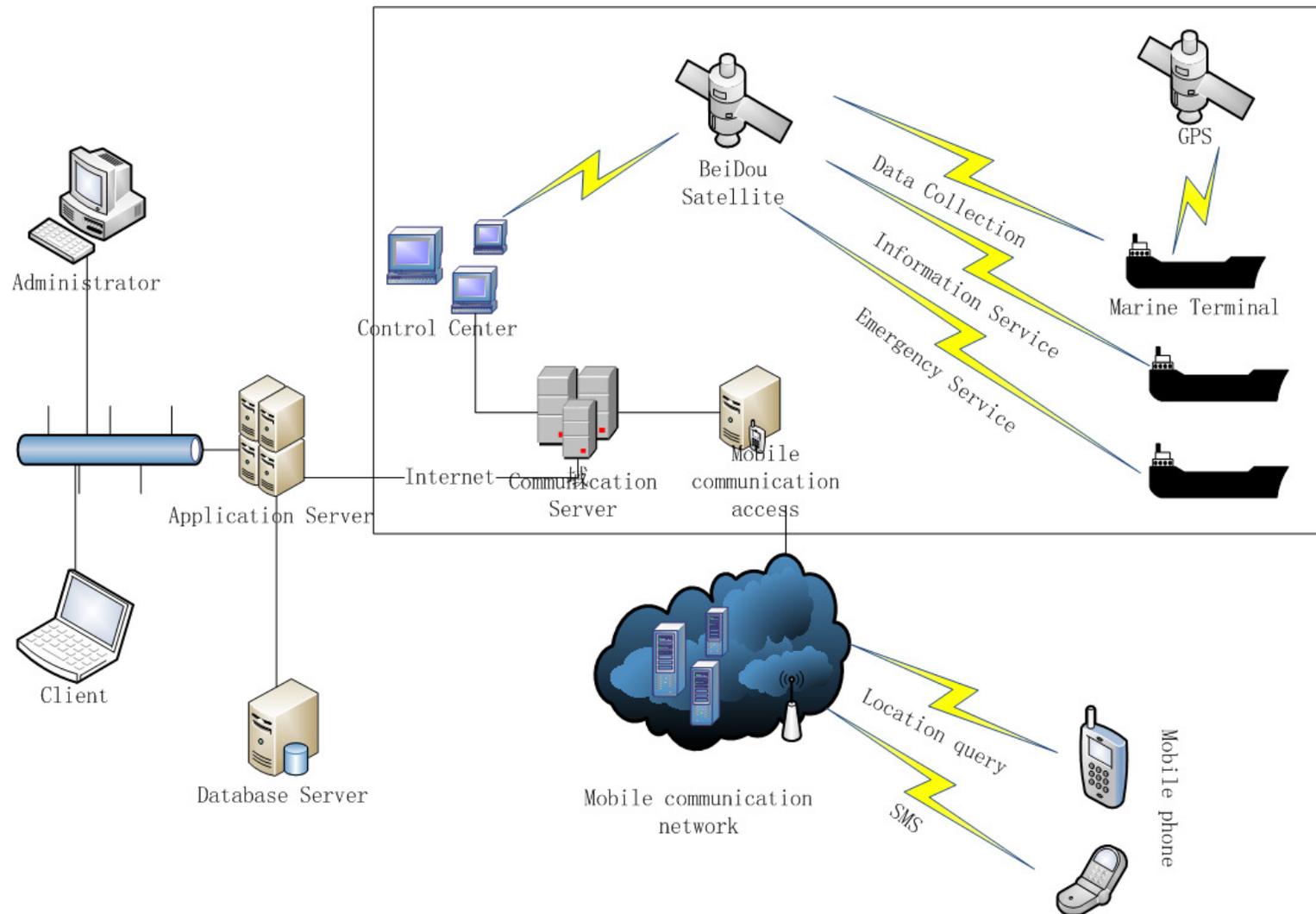
- Strong requirement for
 - maritime safety
 - Real time production information
 - 480K fishing boats, including 280K maritime fishing boats
 - 2010, 15.16 Million tons
 - Location
- GNSS + GIS + AIS



Fishing Information System



Fishing Information System - Architecture



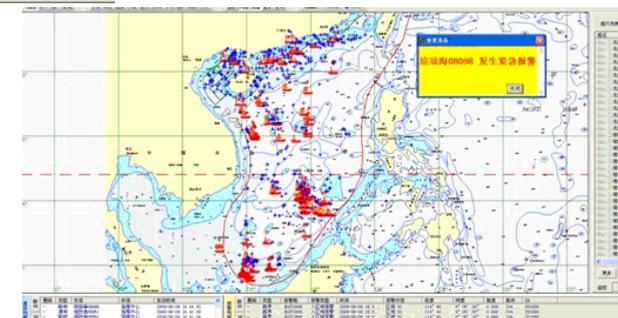
Primary functionalities

- Collect Fishing information
- Dispatch and monitor fishing boat
- Acquire and analyze fishing record and sea-surface temperature
- Communicate between fishing boat, center and mobile
- Historic record
- Emergency response



Control Center

- Fishery data collection, storage and analysis;
- Boat surveillance;
- Auxiliary information service(weather, news, SMS)
- Rescue dispatch;



Onboard devices



Camera



BD+GPS



Panel

Emergency button



AIS



Sea-surface temperature sensor

Panel Functions



- Diary;
- Navigation;
- Geographical information
- SMS
- Warning
- Video

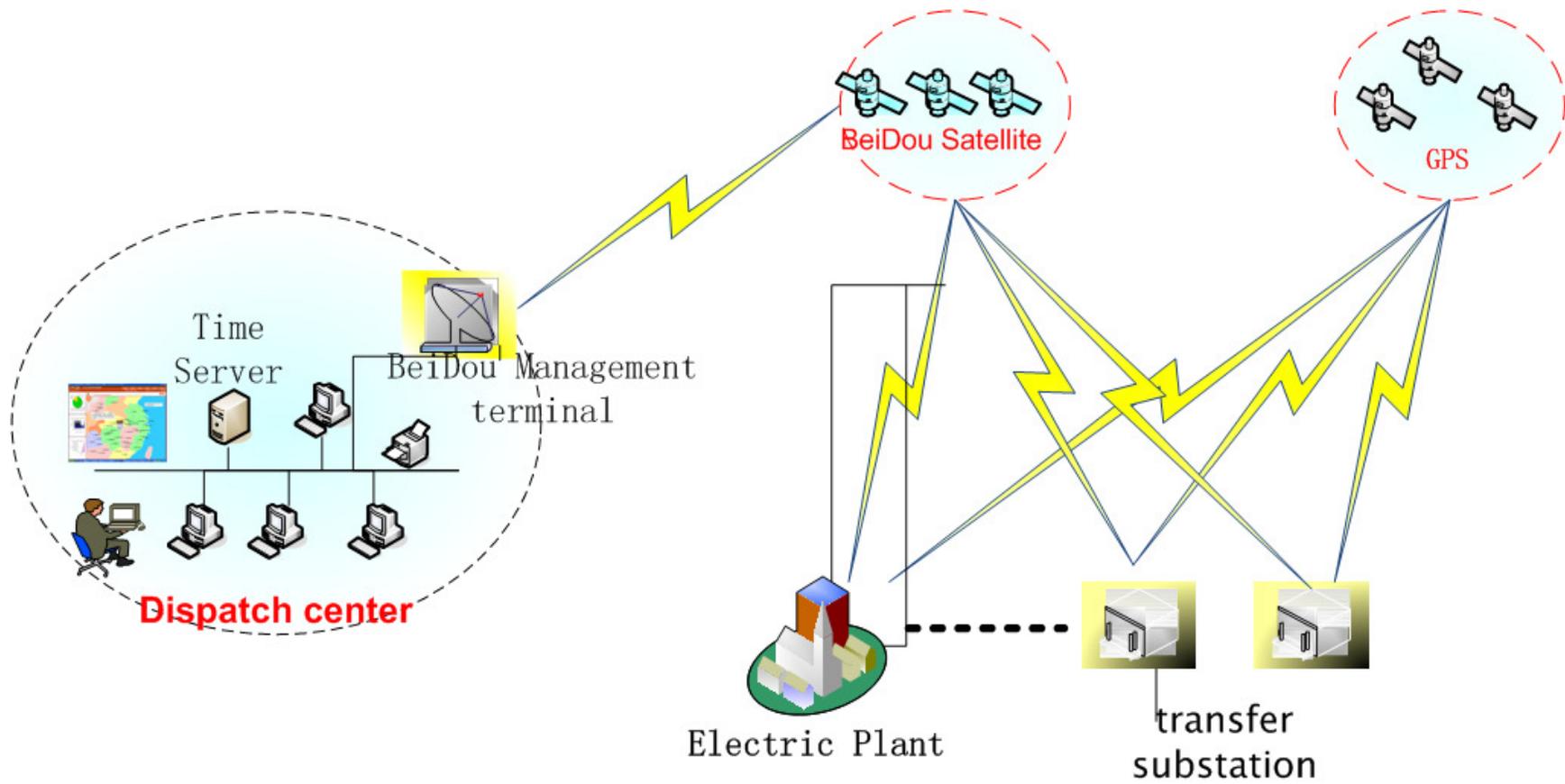
Electric power timing application

- Traditional electric power system
 - 1microsecond
- The new generation smart grid
 - 100 ns

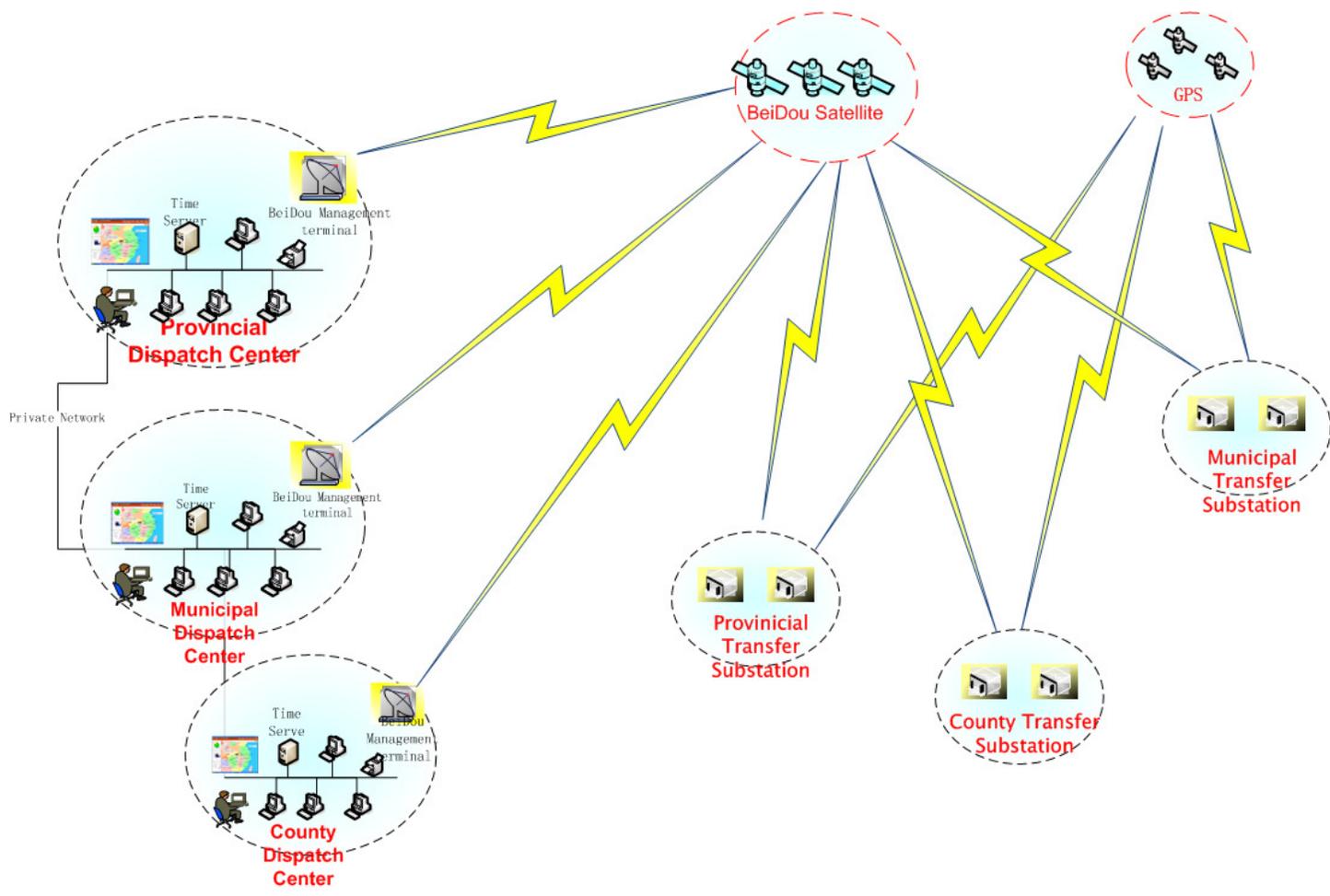


BD/GPS Timing Board

Local area time synchronization management system based on BeiDou



Distributed time synchronization and control system.



Customer's requirements on GNSS

- PVT → LBS

- Multi-GNSS

Conclusion

- Beidou has been in large scale applications in fishing and timing since 2007
- It has been increasingly proved to provide additional safety and information services to many users.

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